

convert them, then the present volume will provide them with ready access to the detail they will need if they are to apply monetary data to wider economic and historical questions.

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The Institutional Revolution: Measurement and the Economic Emergence of the Modern World. By Douglas Allen. Chicago: University of Chicago Press, 2012. Pp. ix, 267. \$30.00, hardcover.
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For Douglas Allen, the past can be divided roughly into two eras: the old times, characterized by peculiar and exotic institutions, such as dueling, venality, and patronage, and the modern era, characterized by wages and prices, technology, and meritocracy. Allen argues that the transition, c. 1850, from the old world to the new was effected by more precise, standardized systems of measurement. Before the modern era it was impossible to measure the most basic things: time, distance, trade volume, labor productivity. As economies gradually expanded with the onset of the Industrial Revolution, new institutions, such as standardized forms of measurement, were created to reduce transactions costs, making growth and wealth creation possible.

Allen warns the reader in the preface that he is not a historian, and predicts that “historians will likely be appalled by [his] failure to elaborate on the nuances of change and [his] reluctance to qualify general statements” (p. *xiii*). Perhaps. They will certainly be surprised to learn that the aristocracy “generated wealth” rather than appropriated rents (p. 56), that unfree labor was a voluntary arrangement (pp. 41–42), that free wage labor arose in the nineteenth century as a result of more accurate time measurement (pp. 42–43), that justice was a private affair in England until the nineteenth century (p. 191), and that the modern family, based on “love marriages,” emerged in the mid-twentieth century (p. 220). Especially problematic is the complete absence of supporting evidence for these and other sweeping empirical claims: premodern institutions “were designed to solve incentive problems” (p. 7); the inability to measure variance is “*the* fact of life that creates interesting institutional innovations” (p. 23); and “[p]rior to the middle of the eighteenth century, it was simply not worth the effort . . . to distinguish between the role of nature and . . . humans in production” (p. 43).

Allen offers numerous examples of premodern institutions that, in his view, minimized variance in a society where it was impossible to separate the inputs of nature from those of humans. He explains how each of these institutions, including the aristocracy, dueling, the sale of army commissions, and private road provision, might be seen as addressing measurement costs. Aristocratic notions of trust and honor, for instance, should be seen as institutions for monitoring behavior in the absence of more effective measures. It is somewhat surprising that Allen makes no effort in this study to engage with more systematic attempts to measure input and output in the past. Wage and price data, for instance, exist for premodern societies, going back, in the English case, to the medieval period. Surely we can assume that these data reflect attempts to measure something? Allen might at least have told us why he thinks premodern systems of wages and prices were less effective than the modern systems that, in his view, emerged in the nineteenth century. Few would argue that innovation in measurement was insignificant to the development of modern economies. But the

handwaving approach taken here—in the past, we had trust and personal ties, in the modern world, we have measurement—does not shed much empirical light on the economic significance of the measurement revolution.

The theoretical framework is equally unsatisfying. This is a story about the importance of institutions to economic development. But Allen's account of institutions is fundamentally inconsistent. On the one hand, he shares the starting point of the new institutional economics: any institution should be viewed as efficient within a particular set of constraints. Thus the aristocracy and all its seemingly peculiar behaviors was a successful solution to the problem of high measurement costs in the premodern world. He repeatedly refers to institutions as solutions that "society" "chooses" or "designs" to address the problem of transactions costs, although the actual processes whereby these choices are made, and by whom, are never described. There are always competing solutions, he says, but the successful ones tend to win out. (The obvious question, "successful for whom?" is not addressed.)

On the other hand, Allen is perfectly aware that many places in the world have rather unsuccessful institutions (for economic growth, at least). But how can that be, if the most efficient institutions are always chosen? He tries to extricate himself from this inconsistency by relativizing institutional efficiency to the larger institutional framework of the respective society. Thus western institutions fail in modern LDCs because they are only efficient in their western contexts. This is an important point, but it undermines the story he wants to tell. For it means that the new systems of measurement he sees as part of the transition to modernity are efficient only in the context of an English institutional framework and have little significance for economic development in the rest of the world. And, since many parts of the world have adopted modern, standardized systems of measurement, but without revolutionary effects for their economies, it is indeed reasonable to assume that other parts of the English institutional framework were more critical for economic growth.

The idea that the reduction of variance had significant effects on economic development is not an uninteresting one, and Allen's enthusiasm for his theory comes through in his writing. But enthusiasm is no substitute for empirical evidence or theoretical coherence, and so the reader remains unconvinced.

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UNITED STATES AND CANADA

Making Tobacco Bright: Creating an American Commodity, 1617–1937. By Barbara Hahn. Baltimore, MD: Johns Hopkins University Press, 2011. pp. x, 236. \$60.00, hardcover.
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In *Making Tobacco Bright*, Barbara Hahn has produced an important addition to the histories of agriculture and technology. It is a major undertaking to analyze the causes and consequences of the changes that occurred in the tobacco industry over a 320-year period; it is even more impressive to link these changes to evolving political, economic, and social conditions. This is precisely what Hahn has achieved. Her overarching thesis is that agricultural technologies are constructed by humans rather than the products of nature. She uses the history of tobacco to illustrate this general premise. The extent to which tobacco culture, manufacturing, and distribution